

99-03

ABSTRACT

An optical recording method for recording mark length-modulated information on a recording medium by using a plurality of recording mark lengths. The optical recording method comprises the steps of:

5 when a time length of one recording mark is denoted nT (T is a reference clock period equal to or less than 25 ns, and n is a natural number equal to or more than 2),

(i) dividing the time length of the recording mark nT into $\eta_1T, \alpha_1T, \beta_1T, \alpha_2T, \beta_2T, \dots, \alpha_iT, \beta_iT, \dots, \alpha_mT, \beta_mT, \eta_2T$

10 in that order (m is a pulse division number; $\sum_i(\alpha_i + \beta_i) + \eta_1 + \eta_2 = n$; α_i ($1 \leq i \leq m$) is a real number > 0 ; β_i ($1 \leq i \leq m-1$) is a real number > 0 ; β_m is a real number ≥ 0 ; and η_1 is a real number of $-2 \leq \eta_1 \leq 2$ and η_2 is a real number of $-2 \leq \eta_2 \leq 2$);

15 radiating recording light with a recording power P_{w_i} in a time duration of α_iT ($1 \leq i \leq m$), and radiating recording light with a bias power P_{b_i} in a time duration of β_iT ($1 \leq i \leq m$), the bias power being $P_{b_i} < P_{w_i}$ and $P_{b_i} < P_{w_{i+1}}$; and

(ii) changing $m, \alpha_i, \beta_i, \eta_1, \eta_2, P_{w_i}$ and P_{b_i} according to n of the time length nT of the recording mark;

20 wherein the pulse division number m is 2 or more for the time duration of at least one recording mark and meets $n/m \geq 1.25$ for the time length of all the recording marks.